

## **REMARKS**

This Amendment is responsive to the Final Office Action that was mailed September 19, 2006 (hereinafter "Office Action").

### **Claim Amendments**

The Examiner has indicated that claims 2, 3, and 16-19 would be allowable if rewritten in independent form. Applicants have rewritten claims 2, 3, and 16-19 in independent form. Applicants extend their gratitude to the Examiner for identifying the allowable subject matter.

### **Claim Rejections Under 35 U.S.C. § 102(b)**

Claims 1, 4-8, 10, 11, 13, 14, and 20-27 are rejected under 35 U.S.C. § 102(b) as being anticipated by Engel et al., U.S. Patent No. 5,900,159 ("Engel").

Engel discloses a method for separating liquid from a slurry. The method is described in two embodiments, each of which uses a hydrocyclone.

In the case of the embodiment that is illustrated in Fig. 1, hydrocyclone 12 is used to degas the slurry before it is pumped through a cross flow filter. Hydrocyclone 12 includes an overflow outlet in communication with line 13 for gas separated from the slurry, and an underflow outlet in communication with line 14 for directing a degassed slurry out of the hydrocyclone. Col. 8, lines 22-28. Pump 15 pumps the degassed slurry through cross flow filter 16 where it is separated into a liquid filtrate and a concentrated slurry. The concentrated slurry flowing out of cross flow filter 16 is recycled to the reactor or optionally to pump 15.

In the embodiment illustrated in Fig. 2, hydrocyclone 32 is used to separate a degassed slurry into a first stream having a low concentration of solid particles and a second stream having a high concentration of solid particles. Hydrocyclone 32 includes an overflow outlet in communication with line 33 for the first stream and an underflow outlet in communication with line 40 for the second stream. The first stream is pumped by pump 34 through a cross flow filter 35 to give a liquid filtrate and a concentrated slurry stream. Liquid filtrate flows out of

cross flow filter 35 through line 36 and the concentrated slurry flows out through line 37 to be recycled to the reactor or optionally to pump 31 and/or pump 34.

Regarding claim 1 and the claims depending therefrom, one element of claim 1 is "a products vessel configured to receive a portion of the liquid components and the gases from the overflow outlet." Engel does not teach this element of claim 1. First, the Examiner believes that the reactor vessel 1 of Engel is the products vessel of the present invention. Office Action, p. 2. However, in the present invention, there is a separate reactor vessel 10 and a separate products vessel 32. Paragraph 0064. Therefore, Engel does not teach the products vessel of the present invention. Second, assuming for the sake of argument that the reactor vessel 1 of Engel is the products vessel of the present invention, the reactor vessel 1 of Engel is not "configured to receive a portion of the liquid components and the gases from the overflow outlet." With the alternative embodiment of Fig. 2, "Gaseous compounds are withdrawn from [hydrocyclone 12] and returned to the freeboard zone of the reactor vessel [1] via [overflow outlet] line 13." Col. 8, lines 55-57. There is no teaching in Engel that reactor vessel 1 also receives liquid components from the overflow outlet. Therefore, Engel does not disclose a products vessel configured to receive a portion of the liquid components and the gases from the overflow outlet.

Regarding claim 13 and the claims depending therefrom, one element of claim 13 is "directing separated liquid components and gases through the overflow outlet and into a products vessel." Engel does not teach this element of claim 13. First, the Examiner believes that the reactor vessel 1 of Engel is the products vessel of the present invention. Office Action, p. 3. However, in the present invention, there is a separate reactor vessel 10 and a separate products vessel 32. Paragraph 0064. Therefore, Engel does not teach the products vessel of the present invention. Second, assuming for the sake of argument that the reactor vessel 1 of Engel is the products vessel of the present invention, separated liquid components and gases are not directed through the overflow outlet and into the products vessel. With the alternative embodiment of Fig. 2, "Gaseous compounds are withdrawn from [hydrocyclone 12] and returned to the freeboard zone of the reactor vessel [1] via [overflow outlet] line 13." Col. 8, lines 55-57. There is no teaching in Engel that reactor vessel 1 also receives liquid components from the overflow outlet. Therefore, Engel does not disclose

directing separated liquid components and the gases through the overflow outlet and into a products vessel.

Because Engel fails to teach one or more of the recited elements of each of claims 1 and 13, reconsideration and withdrawal of the rejection of claims 1, 4-8, 10, 11, 13, 14, and 20-27 under 35 U.S.C. §102(b) as being anticipated by Engel is respectfully requested.

**Claim Rejections Under 35 U.S.C. § 103(a)**

Claim 12 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Engel et al. First, Engel contains no teaching or suggestion to pump a slurry through a hydrocyclone. Second, claim 12 is believed to be in condition for allowance by virtue of its dependency from claim 1.

Claims 9 and 15 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Engel et al. in view of Hayatdavoudi. Hayatdavoudi is not relied upon by the Office as teaching any of the elements of claims 1 and 13 that are absent in the teachings of Engel. As such, these claims are believed to be in condition for allowance by virtue of their dependency from claims 1 and 13, respectively.

Applicants respectfully request reconsideration and withdrawal of the rejections under 35 U.S.C. §103(a).

**Allowable Subject Matter**

The Examiner has indicated that claims 2, 3, and 16-19 would be allowable if rewritten in independent form. Applicants have rewritten claims 2, 3, and 16-19 in independent form. Applicants extend their gratitude to the Examiner for identifying the allowable subject matter.

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All of the stated grounds of objection and rejection are believed to have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicants believe that a full and complete response has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment is respectfully requested.

Respectfully submitted,



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Melissa Patangia  
Attorney for Applicants  
Reg. No. 52,098

November 16, 2006  
Customer Number 38393  
Chevron Services Company  
P. O. Box 3725  
Houston, Texas 77253-3725  
832-854-4440 (Voice)  
832-854-6495 (Fax)